

**Chapter 17: EXTENSOR TENDON REPAIRS**  
**EXTENSOR CARPI ULNARIS (ECU) Subluxation – Sheath Reconstruction**

**POSTOPERATIVE THERAPY**

**10 – 14 Days Postop**

The bulky compressive dressing is removed.

The sutures are removed.

An initial evaluation is performed.

An elastic stockinette is applied to the hand and forearm for light edema control.

A custom-fabricated static long arm orthosis is fitted with the elbow flexed 90°, the forearm in neutral or pronated 45°-60°, with the wrist in slight extension (30°) and slight ulnar deviation (10°) to wear at all times.

AROM exercises are initiated to the shoulder and hand 2-3 times a day, 15 repetitions. [Note: Be sure to include isolated EDC excises (MPJs extended with the IPJs flexed – to flex/extend the MPJs), along with isolated EDQM extension for the small finger.

**14 – 21 Days Postop**

Once the wound is completely healed, scar massage with lotion is initiated ±3 times a day for 1-3 minutes. Massage along the length of the incision initially. 5-7 days later add gentle clockwise, counterclockwise and cross-friction massage at a 90° angle to the scar. Perform the scar massage for 1-2 minutes. Too much massage may generate inflammation and potentially greater scar tissue.

**3 Weeks Postop**

Gentle AROM exercises may be initiated to the wrist (with the forearm pronated) in a short arc of motion (flexion/extension 30°, radial and ulnar deviation (10°-15°). The goal is to gradually restore AROM within two to three weeks. Exercises are performed 3-4 times a day, 25 slow repetitions, holding the end range for 5-10 seconds. [Note: To position the forearm in pronation is less tension on the ECU. Begin in this position and one week later transition to the forearm neutral position. By the fifth week add AROM in supination.

Moist heat for 5-10 minutes before exercise sessions is recommended.

Ultrasound or phonophoresis may be a consideration in the presence of ulnar-sided wrist pain.

**4 Weeks Postop**

The long arm orthosis is reduced to a wrist immobilization orthosis between exercise sessions and at night.

Mid arc AROM of the wrist (45°-60°) may be initiated in pronation and in the forearm neutral position. A week later add mid arc AROM wrist exercises in supination.

The wrist immobilization orthosis may be left off for 1-2 half hour sessions during the day for very light ADLs (i.e. showering, eating, brushing teeth, reading a book).

[Note: If there is wrist pain with forearm rotation, consider a prefabricated wrist immobilization orthosis (lacing type) to provide circumferential support with forearm exercises. This should limit/prevent ulnar-sided wrist pain.]

**5 Weeks Postop**

Begin mid arc AROM for forearm and wrist exercises in all planes of motion.

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### **EXTENSOR CARPI ULNARIS (ECU) Subluxation – Sheath Reconstruction [continued]**

#### **5 Weeks Postop [continued]**

Gentle, AAROM (self-passive) exercises may be initiated to the wrist. Begin with gentle passive wrist flexion with the forearm pronated. [Continue with moist heat prior to exercises.]

Should pain be present with exercise, consider a wrist strap to provide support to the ulnar wrist. Typically, the wrist strap will reduce or eliminate the pain.

The wrist immobilization orthosis may be left off for light ADLs around the house 2-3 times a day for 30 minutes to one hour. It should be worn for protection otherwise.

Patient education should emphasize avoiding tasks where the forearm is supinated, wrist ulnarly deviated and flexed while statically holding onto objects. This is notable strain on the ECU & sheaths.

#### **6 Weeks Postop**

Begin full arc AROM of the wrist with the forearm in pronation, neutral position and supinated.

Gentle passive wrist flexion may include 1-2 pound weights for weighted wrist stretches. Begin with gentle PROM with the forearm initially in pronation.

The wrist immobilization orthosis may be discontinued, except for any weighted resistance to the hand/arm. Patient education must emphasize not to use the hand with weighted resistance or compression/distraction of the wrist in any activity for a minimum of 3 months.

Should pain not be diminishing, the wrist orthosis should be continued between exercise sessions or a wrist strap may be considered.

#### **8 Weeks Postop**

The patient may return to most activities, except those requiring load demands or repetition on the wrist. Such activities should be delayed a minimum of 3 months. [Note: It is not particularly uncommon for the patient to continue wearing a wrist support for 6-9 months, when participating in sports and work activities that load the wrist.]

#### **9 Weeks Postop**

Hand strengthening with putty or a hand exerciser is encouraged.

Progressive strengthening for the wrist with 2-4 pound weights may be initiated. To perform wrist strengthening with the forearm in neutral initially is recommended.

#### **4 – 6 Months Postop**

These authors prefer returning to activities which demand both a tight, sustained grip and a counterforce (e.g. golf, tennis, digging a hole, bowling, gardening, pushing/pulling weighted objects etc.) no sooner than 4 months postop. Rarely is the patient encouraged to return to activities/exercises that compress the wrist with traditional push-ups or other exercises where the wrist is extended and compressed with loaded resistance.

The ECU is an important, key structure to the ulnar side of the wrist and the TFCC. Eliminating the pain, maintaining stability and restoring pain-free function is the goal of this procedure.

#### **Points of Interest**

The ECU originates along the lateral epicondyle and posterior aspect of the ulna. It is covered and protected by its own fibro-osseous tunnel and subsheath as it travels through the 6<sup>th</sup> dorsal compartment. It is covered by the extensor retinaculum. The ECU inserts at the base of the medial border of the 5<sup>th</sup> metacarpal. It is highly vulnerable to injury in club and racquet sports.